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EXAMINER	
NGUYEN, DUC MINH	
ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/783,117	Applicant(s) NOLTING, THOMAS PAUL	
	Examiner Duc Nguyen	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 23-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17, 23-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-17, 23-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brockman et al (5,592,530) in view of Malloy et al (5,905,985).

Consider claim 1. Brockman et al teach a system and method for monitoring the operation of the switching nodes. Brockman et al disclosed that the system monitoring the signaling between two different devices in the network, capture and correlate the signaling information. The system correlate the messages pertaining a particular call or multiple switched calls to data record. The call records (i.e., flat files) are compiled and direct to the system analyzer in order to evaluate the system performance (see col. 2 lines 7-57). The Call Detail Record (CDR) generation create data records that can be sent to an external system explaining what occurred in the call. CDRs (i.e., flat files) are transmitted to external systems which analyze them for fraud detection, billing, and service assurance applications (see col. 16 lines 30-41). Brockman further teaches "every SS7 message contains a routing label consisting of a destination point code (DPC), origination point code (OPC), and the signaling link selection code." (col. 6, ln. 13-33).

Brockman also teaches monitor 1 and 2 monitor multiple calling numbers as well as called numbers (there could be many calls going simultaneously between SSP1 and SSP2; col. 9, ln. 5-14). Brockman further teaches "call tracing is applicable only to a small percentage of **calls** so as not to substantially increase the bandwidth requirements of the communication bus 145 between monitor 1 and 2." (col. 16, ln. 23-29). Based on the messages pertaining the routing label and the ability of monitor 1 and 2 to monitor and trace multiple calling numbers as well as called numbers, it is inherent that Brockman system can create relational files relating to multiple switched calls for multiple called numbers based upon the collected messages.

Brockman does not clearly teach performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof.

Malloy teaches performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof (see the abstract; see figure 1; column 2 line 44 to column 3 line 2; column 3 lines 44-61; column 4 lines 50-60; column 5 lines 3-20; column 5 lines 53-64; column 6 lines 10-37; column 10 line 35 to column 11 line 34; column 11 line 55 to column 12 line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Malloy into the teachings of Brockman in order to provide a multi-user client/server system which offers consistently rapid response to database access, regardless of database size and complexity.

Consider claims 2-13. Brockman et al teach that the system track the number of calls are being dropped, the number of call completed, the call time of the call, the end time of the call, calling number, **switching nodes involved**, and other data used in billing system (see col. 16 lines 1-41). Brockman et al also teach that the system utilizes timeout conditions to define the maximum duration of any phone call in order to detect certain errors (see col. 13 lines 40+). This reads on applicant method wherein said multiple switched calls comprise completed dialed telecommunication sessions between a calling terminal and a called terminal. The incomplete dialed attempts between the calling terminal and the called terminal. This also reads on applicant method including the step of providing a report of calls dialed to a designated terminal in a designated time period and wherein said report includes data relating to the time of connection of completed calls. This further reads on applicant method wherein said report includes data relating to the number of incomplete calls within a time frame; information regarding the routing of said calls; information as to whether said calls were routed through a tandem switching system; information identifying the originating switching systems, the tandem switching systems, and the terminating systems for said calls; information as to whether said calls were routed through switching facility without routing through the tandem switch; information as to whether said calls were routed through the switch in said tandem switching installation.

Consider claims 14 and 15. Brockman et al teach that in the telephone, all SS7 messages pertaining to a particular call traverse between SSP1 and SSP2 through STP1, all of SS7 messages are sent through the A-link of the STP1 (see col. 11 lines 30-67). This reads on

applicant method wherein said common channel signaling system is an SS7 system and said monitoring occurs on an A links in that system. This also reads on applicant method wherein said monitoring occurs on A links to the originating switching systems and to the terminating switching systems.

Consider claims 16 and 17, as discussed above, Brockman et al teach that an SS7 network traditionally has three basic types of network nodes elements. One of them is the SSP, which may be a central office switch, a tandem switch or an end office switch (see col. 1 lines 33-45). Brockman et al also teach that every SS7 message contains a routing label consisting of a Destination Point Code, Originating Point Code, and the signaling link selection code (see col. 6 lines 13-33). This reads on applicant method wherein said monitoring also occurs on A links to a tandem switching system connected between the originating and terminating switching systems. This also reads on applicant method including the step of providing a report of calls dialed to a designated terminal in a designated time period and including identification of the originating switching systems.

Consider claims 23 and 29, Brockman et al teach a system and method for monitoring the operation of the switching nodes. Brockman et al teach the plurality of links connected between the plurality of SSP's and a pair of STP's (see Fig. 1). Brockman et al disclosed that the system monitoring the signaling between two different devices in the network, capture and correlate the signaling information. The system correlate the messages pertaining a particular call or multiple switched calls to data record. The call records are compiled and direct to the system analyzer in

order to evaluate the system performance (see col. 2 lines 7-57). The Call Detail Record (CDR) generation create a data record that can be sent to an external system explaining what occurred in the call. CDR are transmitted to external systems which analyze them for fraud detection, billing, and service assurance applications (see col. 16 lines 30-41). This reads on applicant method comprising monitoring the signaling in said A links and selecting the A link signaling relating to call set up; collating the selected signaling by call; processing the collated signaling to create relational files relating to multiple call; subjecting the relational files to on line analytical processing to provide a multidimensional database to consolidate and summarize ongoing call attempts and completions and provide reports thereof. Brockman further teaches "every SS7 message contains a routing label consisting of a destination point code (DPC), origination point code (OPC), and the signaling link selection code." (col. 6, ln. 13-33). Brockman also teaches monitor 1 and 2 monitor multiple calling numbers as well as called numbers (there could be many calls going simultaneously between SSP1 and SSP2; col. 9, ln. 5-14). Brockman further teaches "call tracing is applicable only to a small percentage of **calls** so as not to substantially increase the bandwidth requirements of the communication bus 145 between monitor 1 and 2." (col. 16, ln. 23-29). Based on the messages pertaining the routing label and the ability of monitor 1 and 2 to monitor and trace multiple calling numbers as well as called numbers, it is inherent that Brockman system can create relational files relating to multiple switched calls for multiple called numbers based upon the collected messages.

Brockman does not clearly teach performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof.

Malloy teaches performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof (see the abstract; see figure 1; column 2 line 44 to column 3 line 2; column 3 lines 44-61; column 4 lines 50-60; column 5 lines 3-20; column 5 lines 53-64; column 6 lines 10-37; column 10 line 35 to column 11 line 34; column 11 line 55 to column 12 line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Malloy into the teachings of Brockman in order to provide a multi-user client/server system which offers consistently rapid response to database access, regardless of database size and complexity.

Consider claims 24-28 and 30-31, Brockman et al teach that the system track the number of calls are being dropped, the number of call completed, the call time of the call, the end time of the call, calling number, **switching nodes involved**, and other data used in billing system (see col. 16 lines 1-41). Brockman et al also teach that the system utilizes timeout conditions to define the maximum duration of any phone call in order to detect certain errors (see col. 13 lines 40+). This reads on applicant method including the step of providing a report of calls dialed to a designated terminal in a designated time period and wherein said report includes data relating to the time of connection of completed calls. This also reads on applicant method wherein said report includes

data relating to the number of incomplete calls within a time frame; information regarding the routing of said calls; and information as to whether said calls were routed through a tandem switching system. This reads on applicant method including the steps of providing reports of the identity of the end office switching systems from which the calls were routed to said tandem switching system and steps of providing reports of the identity of the end office switching systems to which the calls were routed from said tandem switching system.

Consider claim 32, Brockman et al teach a system and method for monitoring the operation of the switching nodes. Brockman et al teach the plurality of links connected between the plurality of SSP's (e.g. end office switching systems, tandem switching systems, etc.) and a pair of STP's (see Fig.1). Brockman et al disclosed that the system monitoring the signaling between two different devices in the network, capture and correlate the signaling information. The system correlate the messages pertaining a particular call or multiple switched calls to data record. The call records are compiled and direct to the system analyzer in order to evaluate the system performance (see col. 2 lines 7-57). The Call Detail Record (CDR) generation create a data record that can be sent to an external system explaining what occurred in the call. CDR are transmitted to **external systems which analyze** them for fraud detection, billing, and service assurance applications (see col. 16 lines 30-41). This reads on applicant system comprising monitors interfacing to the signaling in said A links and selecting the A link signaling relating to call set up between end office switching system through a tandem switching system; processing means collating said selected signaling by call based at least in part of A link signaling to and from

said tandem switching system; processing means processing said collated signaling to create relational files relating to multiple calls; and on line analytical processing means providing a multidimensional database wherein said rational flat files are processed to consolidate and summarize successful and unsuccessful attempts to route calls through said tandem switching system and provide reports thereof. Brockman further teaches "every SS7 message contains a routing label consisting of a destination point code (DPC), origination point code (OPC), and the signaling link selection code." (col. 6, ln. 13-33). Brockman also teaches monitor 1 and 2 monitor multiple calling numbers as well as called numbers (there could be many calls going simultaneously between SSP1 and SSP2; col. 9, ln. 5-14). Brockman further teaches "call tracing is applicable only to a small percentage of **calls** so as not to substantially increase the bandwidth requirements of the communication bus 145 between monitor 1 and 2." (col. 16, ln. 23-29). Based on the messages pertaining the routing label and the ability of monitor 1 and 2 to monitor and trace multiple calling numbers as well as called numbers, it is inherent that Brockman system can create relational files relating to multiple switched calls for multiple called numbers based upon the collected messages.

Brockman does not clearly teach performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof.

Malloy teaches performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and

provide reports thereof (see the abstract; see figure 1; column 2 line 44 to column 3 line 2; column 3 lines 44-61; column 4 lines 50-60; column 5 lines 3-20; column 5 lines 53-64; column 6 lines 10-37; column 10 line 35 to column 11 line 34; column 11 line 55 to column 12 line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Malloy into the teachings of Brockman in order to provide a multi-user client/server system which offers consistently rapid response to database access, regardless of database size and complexity.

Consider claims 33-35, Brockman et al teach the internal architecture of the monitors where the monitors includes processors where the SS7 messages were captured, correlated and processed (see col. 14 lines 23+ and Fig. 7). This reads on applicant system wherein said online analytical processing means provides a data warehouse including multiple related tables which said online analytical processor drills into to retrieve additional information. The also reads on applicant system wherein said online analytical processor is object oriented. This reads on applicant system wherein at least part of said information is obtained from switching system is said switched telecommunication network.

Consider claim 36, Brockman et al teach the system and method of monitoring messages and generate call detail records in the SS7 network. Brockman et al failed to disclosed of the automatic messages accounting (AMA) equipment used to provide information to the monitoring system. However, the examiner take official notice that it is well known in the art to used the AMA in a switched network. Therefore it would have been obvious to one of the ordinary skill in

the art at the time the invention was made to include the AMA system in the switched network in order for billing of service and reporting the event that occurred.

Consider claim 37, Brockman et al teach the system and method of monitoring messages and generate call detail records in the SS7 network. Brockman et al teach the internal architecture of the monitors where the monitors includes processors where the SS7 messages were captured, correlated and processed (see col. 14 lines 23+ and Fig. 7). Brockman et al also disclosed that all intranetwork messages can be done using only the network cluster and cluster member field (see col. 6 lines 13+). This reads on applicant system wherein at least part of the information relates to the calls completes through intra switching system connections.

Consider claims 38 and 39, Brockman et al teach a system and method for monitoring the operation of the switching nodes. Brockman et al teach the plurality of links connected between the plurality of SSP's and a pair of STP's (see Fig. 1). Brockman et al disclosed that the system monitoring the signaling between two different devices in the network, capture and correlate the signaling information. The system correlate the messages pertaining a particular call or multiple switched calls to data record. The call records are compiled and direct to the system analyzer in order to evaluate the system performance (see col. 2 lines 7-57). The Call Detail Record (CDR) generation create a data record that can be sent to an external system explaining what occurred in the call. CDR are transmitted to external systems which analyze them for fraud detection, billing, and service assurance applications (see col. 16 lines 30-41). This reads on applicant method comprising monitoring the signaling between the end office switching systems and the signal

transfer points and selecting the signaling relating to multiple switched calls and collating the selected signaling by multiple switched calls. This also reads on applicant method wherein processing is performed at least in part by online processing means providing a multidimensional database, wherein relation data is processed to consolidate and summarize successful and unsuccessful attempts to route calls to completion. Brockman further teaches "every SS7 message contains a routing label consisting of a destination point code (DPC), origination point code (OPC), and the signaling link selection code." (col. 6, ln. 13-33). Brockman also teaches monitor 1 and 2 monitor multiple calling numbers as well as called numbers (there could be many calls going simultaneously between SSP1 and SSP2; col. 9, ln. 5-14). Brockman further teaches "call tracing is applicable only to a small percentage of **calls** so as not to substantially increase the bandwidth requirements of the communication bus 145 between monitor 1 and 2." (col. 16, ln. 23-29). Based on the messages pertaining the routing label and the ability of monitor 1 and 2 to monitor and trace multiple calling numbers as well as called numbers, it is inherent that Brockman system can create relational files relating to multiple switched calls for multiple called numbers based upon the collected messages.

Brockman et al failed to disclosed of the automatic messages accounting (AMA) used to provide information to the monitoring system. However, the examiner take official notice that it is well known in the art to used the AMA in a switched network. This reads on applicant method comprising collating automatic message accounting equipment output recording call detail and processing the collated common channel signaling and automatic message accounting output to

provide a multidimensional database to consolidate and summarize ongoing multiple switched callss and provide reports thereof.

Therefore it would have been obvious to one of the ordinary skill in the art at the time the invention was made to include the AMA system in the switched network in order for billing of service and reporting the event that occurred.

Brockman does not clearly teach performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof.

Malloy teaches performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof (see the abstract; see figure 1; column 2 line 44 to column 3 line 2; column 3 lines 44-61; column 4 lines 50-60; column 5 lines 3-20; column 5 lines 53-64; column 6 lines 10-37; column 10 line 35 to column 11 line 34; column 11 line 55 to column 12 line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Malloy into the teachings of Brockman in order to provide a multi-user client/server system which offers consistently rapid response to database access, regardless of database size and complexity.

Consider claims 40-42, as discussed above, Brockman et al teach the internal architecture of the monitors where the monitors includes processors having RAM memories where the SS7 messages were captured, correlated and processed (see col. 14-15 lines 23+ and Fig. 7). This

reads on applicant method wherein said online analytical processing means extracts data from storage in said switched telecommunication network in addition to said common channel signaling and said automatic message accounting equipment to provide said reports. This also reads on applicant method wherein said storage at least in part comprise storage associated with end office switching systems. This further reads on applicant method wherein said extracted data relates to equipment associated with the switching system.

Consider claim 43, Brockman et al teach a system and method for monitoring the operation of the switching nodes. Brockman et al teach the plurality of links connected between the plurality of SSP's (e.g. end office switching systems, tandem switching systems, etc.) and a pair of STP's (see Fig.1). Brockman et al disclosed that the system monitoring the signaling between two different devices in the network, capture and correlate the signaling information. The system correlate the messages pertaining a particular call or multiple switched calls to data record. The call records are compiled and direct to the system analyzer in order to evaluate the system performance (see col. 2 lines 7-57). The Call Detail Record (CDR) generation create a data record that can be sent to an external system explaining what occurred in the call. CDR are transmitted to **external systems which analyze** them for fraud detection, billing, and service assurance applications (see col. 16 lines 30-41). This reads on applicant switching network having trunked end office and tandem switching systems controlled by the SS7 common channel signaling system using packet switching via A, B, C, and D links connected to paired signal transfer points connected to one another by C links and connected by A links to end office and

tandem switching systems, said network including monitors interfacing to the signaling in said A links and selecting the A link signaling relating to call set up between end office switching system through a tandem switching system; processing means collating said selected signaling by call based at least in part of A link signaling to and from said tandem switching system; processing means processing said collated signaling to create relational files relating to multiple calls; and on line analytical processing means providing a multidimensional database wherein said rational files are information relating to said call set up and tear down are processed to consolidate and summarize successful and unsuccessful attempts to route calls through said tandem switching system and provide reports thereof. Brockman further teaches "every SS7 message contains a routing label consisting of a destination point code (DPC), origination point code (OPC), and the signaling link selection code." (col. 6, ln. 13-33). Brockman also teaches monitor 1 and 2 monitor multiple calling numbers as well as called numbers (there could be many calls going simultaneously between SSP1 and SSP2; col. 9, ln. 5-14). Brockman further teaches "call tracing is applicable only to a small percentage of **calls** so as not to substantially increase the bandwidth requirements of the communication bus 145 between monitor 1 and 2." (col. 16, ln. 23-29). Based on the messages pertaining the routing label and the ability of monitor 1 and 2 to monitor and trace multiple calling numbers as well as called numbers, it is inherent that Brockman system can create relational files relating to multiple switched calls for multiple called numbers based upon the collected messages.

Brockman et al failed to disclosed of the automatic messages accounting (AMA) equipment used to provide information to the monitoring system. However, the examiner take official notice that it is well known in the art to used the AMA equipment in a switched network. This reads on applicant network including automatic message accounting equipment output recording call detail of call set up and tear down.

Therefore it would have been obvious to one of the ordinary skill in the art at the time the invention was made to include the AMA system in the switched network in order for billing of service and reporting the event that occurred.

Brockman does not clearly teach performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof.

Malloy teaches performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users; and provide reports thereof (see the abstract; see figure 1; column 2 line 44 to column 3 line 2; column 3 lines 44-61; column 4 lines 50-60; column 5 lines 3-20; column 5 lines 53-64; column 6 lines 10-37; column 10 line 35 to column 11 line 34; column 11 line 55 to column 12 line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Malloy into the teachings of Brockman in order to provide a multi-user client/server system which offers consistently rapid response to database access, regardless of database size and complexity.

Response to Arguments

3. Applicant's arguments filed 10/2/2002 have been fully considered but they are not persuasive.

Regarding the Brockman reference, applicant states "Brockman's sole focus is the health of an SS7 data network." and "the concern of the present invention is the health of a voice network... by monitoring an SSP... in order to look at the network load, routing, and possible congestion from multiple switched calls." In contrast to applicant's assertions, Brockman clearly teaches "there is a need for a telephone monitoring system which can monitor the SS7 messages of a mated pair cluster in order to implement what is known as "mass call onset detection." Mass call onset detection is useful in circumstances where a large number of callers attempt to call a single phone number at the same time, such as where radio stations give away prizes to callers who call in immediately, thereby creating a mass call-in. Mass call onset detection applications detect this situation early as the number of SS7 messages pertaining to a particular phone number increases rapidly and alert the phone company quickly to the large number of busy conditions associated with a given phone number."

Applicant further argues that Brockman only concerns with the proper operation of STPs in order to ensure the health of an SS7 network by citing that the monitoring equipment is deployed at the STPs, rather than at the SSPs. In contrast to applicant's assertions, the reasons for deploying monitoring equipment at the STPs, rather than at the SSPs are for centralized

monitoring and economical reasons since "The STP is the central routing point for the SS7 data. The monitoring devices are connected by a communication link that enables the monitoring devices to track and correlate all the SS7 data at an application layer in a distributed fashion across two STPs. From this, one can determine error conditions at the application layer of the network." and "A key advantage of the present invention is to deploy the monitoring equipment at the STPs, rather than the SSPs. Deploying at the SSPs allows for easier collation of a smaller amount of data, since it is all related to a single switch. However, monitoring at the SSPs would require an order of magnitude increase in the amount of equipment used. Furthermore, individual SSP data would then have to be correlated with other SSPs to formulate call records. Monitoring STPs is a superior solution since the STPs route all of the SS7 messages and there are far fewer STPs."

Regarding the Brockman reference, applicant states "Brockman actually teaches away from the claimed invention because Brockman only focused on the proper operation of STPs in order to monitor SS7 data to look for error conditions in the SS7 network (rather than signaling for multiple switched calls, as taught by the claimed invention). In contrast to applicant's assertions, the reasons for deploying monitoring equipment at the STPs, rather than at the SSPs are for centralized monitoring and economical reasons since "The STP is the central routing point for the SS7 data. The monitoring devices are connected by a communication link that enables the monitoring devices to track and correlate all the SS7 data at an application layer in a distributed fashion across two STPs. From this, one can determine error conditions at the application layer of

the network." and "A key advantage of the present invention is to deploy the monitoring equipment at the STPs, rather than the SSPs. Deploying at the SSPs allows for easier collation of a smaller amount of data, since it is all related to a single switch. However, monitoring at the SSPs would require an order of magnitude increase in the amount of equipment used. Furthermore, individual SSP data would then have to be correlated with other SSPs to formulate call records. Monitoring STPs is a superior solution since the STPs route all of the SS7 messages and there are far fewer STPs."

Applicant further argues that "Brockman does not even teach or suggest how multiple switched calls are routed through a network, nor does Brockman teach or suggest how the available signaling message may be used.", "neglects to perform any load analysis on switching machines, such as the SSP, tandem switch, or end-office switch.", and "Brockman does not mention any kind of analysis based on the switching machine that a call goes through, as recited by the present invention." In contrast to applicant's assertions, Brockman clearly teaches "The first and second monitors capture selected telephone switching messages on the links of the mated pair. Each monitor compiles either a primary or secondary record of switching messages pertaining to a particular call or multiple switched calls being routed by the mated pair of switching nodes. The **primary record** is maintained by the monitor which detects the first message which initiates **a particular call** or multiple switched calls. **Subsequent messages pertaining to that call** or multiple switched calls that are captured by the other monitor are compiled in a **secondary record**. At the completion of the call or multiple switched calls, selected

messages stored in the secondary call record are transferred to the monitor containing the primary record by means of a communications bus connecting the two monitors. The composite record is then **analyzed** by the monitor containing the primary record to evaluate the performance of the **telephone switch** and to perform other tasks, such as calling card fraud detection and service assurance applications." (See the entire abstract).

Applicant also argues that "there is no need for a database in Brockman." In contrast to applicant's assertions, Brockman clearly teaches "The first and second monitors capture selected telephone switching messages on the links of the mated pair. Each monitor compiles either a primary or secondary record of switching messages pertaining to a particular call or multiple switched calls being routed by the mated pair of switching nodes. The **primary record** is maintained by the monitor which detects the first message which initiates a particular call or multiple switched calls. Subsequent messages pertaining to that call or multiple switched calls that are captured by the other monitor are compiled in a **secondary record**. At the completion of the call or multiple switched calls, selected messages stored in the secondary call record are transferred to the monitor containing the primary record by means of a communications bus connecting the two monitors. The composite record is then **analyzed** by the monitor containing the primary record to evaluate the performance of the telephone switch and to perform other tasks, such as calling card fraud detection and service assurance applications." (See the entire abstract).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Brockman system monitors and captures data (e.g., SS7 messages and signals) on all of the connection links. The system then processes the data and produces a plurality of multiple switched calls records. It is inherent that the multiple switched calls records are stored in a database for future retrieval and manipulating. Malloy discloses a database management system that supports on-line analytical processing (OLAP). It would have been obvious to use a new and improved database management system (i.e., OLAP) in place of an old and outdated database management system (i.e., a conventional database management system) in order to provide a multi-user client/server system which offers consistently rapid response to database access, regardless of database size and complexity. Furthermore, OLAP is a well-known "**off-the-shelf**" database management system. There is a strong presumption that OLAP can be used to process a variety of data types, including data from telecommunications switches, there exist a strong prima facie case of obviousness and consequent non-patentability under 35 USC 103.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Nguyen whose telephone number is (703) 308-7527.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Kuntz, can be reached on (703) 305-4708.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-6306 or (703) 308-6296 (Group's Fax numbers)
(703) 746-7251 (Examiner's Fax number, only for proposed amendment)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

December 26, 2002

DUC NGUYEN
PRIMARY EXAMINER